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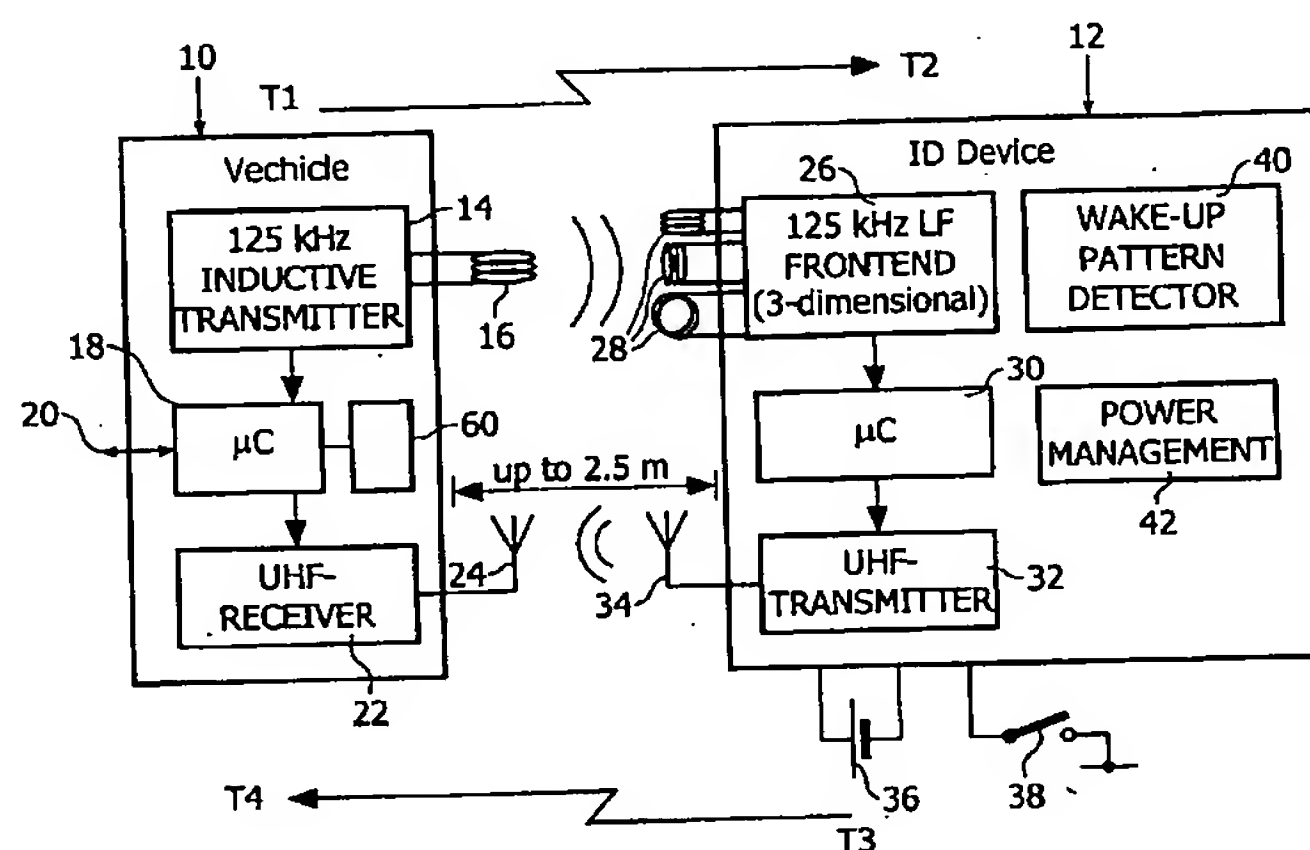
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(54) Title: A TIME-OF-FLIGHT MEASUREMENT SYSTEM AND A METHOD OF OPERATING THE SYSTEM



(57) Abstract: A time-of-flight ranging system, such as a keyless entry system, comprises a first part (10) and a second part (12) which may implemented as a portable device such as a key fob. Both parts have signal transmitting and receiving means (14, 22 and 26, 32) for effecting communication with each other. The signal transmitting and receiving means introduce non-predictable time delays in their respective internal signal propagation paths. The first part includes a controller (18) for determining the time-of-flight delays of the signals in between the parts. In order to allow for the non-predictable time delays, the first and second parts are located within a known distance of each other and the time-of flight over the known distance is measured, the time difference between the measured time-of-flight and a theoretical time-of-flight over the known distance is determined and is used to adjust the measured time-of-flight and thereby the range. The time-of-flight ranging system may be applied to not only entry security systems but also to tracking systems such as systems for tracking toddlers, personnel and equipment.

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